Claims

1. A doped leucite glass ceramic powder, comprising

(a) a leucite glass ceramic powder; and

(b) a nanoscale metal oxide powder with a d_{50} value of 1 nm to 200 nm.

2. A doped leucite glass ceramic, comprising

(a) a leucite glass ceramic; and

(b) a nanoscale metal oxide with a d_{50} value of 1 nm to 200 nm.

3. The doped leucite glass ceramic according to Claim 2, wherein the leucite glass ceramic has the following composition:

SiO_2	70% by weight (relative to the total weight of the leucite glass ceramic (a));
Al_2O_3	10% by weight;
K_2O	10% by weight;
Na_2O	5% by weight;
CaO	2% by weight;
BaO	1% by weight;
CeO_2	1% by weight;
B_2O_3 and TiO_2	1% by weight.

4. The doped leucite glass ceramic according to Claim 2, wherein the nanoscale metal oxide (b) is present in an amount of 1% to 80% by weight (relative to the total weight of the doped leucite glass ceramic).

5. The doped leucite glass ceramic according to Claim 2, wherein the nanoscale metal oxide (b) is present in an amount of 30% to 70% by weight (relative to the total weight of the doped leucite glass ceramic).

6. The doped leucite glass ceramic according to Claim 2, wherein the nanoscale metal oxide (b) is about 60% by weight (relative to the total weight of the doped leucite glass ceramic).

7. The doped leucite glass ceramic according to Claim 2, wherein the particle size of the nanoscale metal oxide (b) lies between 10 nm and 200 nm.

8. The doped leucite glass ceramic according to Claim 2, wherein the particle size of the nanoscale metal oxide (b) lies between 20 nm and 100 nm.

9. The doped leucite glass ceramic according to Claim 2, wherein the particle size of the nanoscale metal oxide (b) lies between 30 nm and 60 nm.

10. The doped leucite glass ceramic according to Claim 2, wherein the nanoscale metal oxide (b) is ZrO_2.

11. The doped leucite glass ceramic according to Claim 2, wherein the nanoscale metal oxide (b) is ZrO_2 that has been stabilized with 0.5 mole % to 12 mole % (relative to the total amount of nanoscale metal oxide) of another metal oxide.

12. The doped leucite glass ceramic according to Claim 11, wherein the other metal oxide is 7 mole-% to 12 mole-% of MgO or CaO or 1 mole-% to 5 mole-% of Y_2O_3.

13. The doped leucite glass ceramic according to Claim 11, wherein the other metal oxide is about 9 mole-% of MgO or CaO or about 3 mole-% of Y_2O_3.

14. The doped leucite glass ceramic according to Claim 2, wherein the nanoscale metal oxide (b) is made by means of a plasma synthesis method.

15. A doped glass ceramic made from the doped leucite glass ceramic powder of Claim 1.

16. The doped glass ceramic of Claim 15, wherein the leucite glass ceramic powder has the following composition:

SiO_2	70% by weight (relative to the total weight of the leucite glass ceramic powder (a));
Al_2O_3	10% by weight;
K_2O	10% by weight;
Na_2O	5% by weight;
CaO	2% by weight;
BaO	1% by weight;
CeO_2	1% by weight;
B_2O_3 and TiO_2	1% by weight.

17. The doped glass ceramic according to Claim 15, wherein the nanoscale metal oxide powder (b) is present in an amount of 1% to 80% by weight (relative to the total weight of the doped leucite glass ceramic powder).

18. The doped glass ceramic according to Claim 15, wherein the nanoscale metal oxide powder (b) is present in an amount of 30% to 70% by weight (relative to the total weight of the doped leucite glass ceramic powder).

19. The doped glass ceramic according to Claim 15, wherein the nanoscale metal oxide powder (b) is present in an amount of about 60% by weight (relative to the total weight of the doped leucite glass ceramic powder).

20. The doped glass ceramic according to Claim 15, wherein the particle size of the nanoscale metal oxide powder (b) lies between 10 nm and 200 nm.

21. The doped glass ceramic according to Claim 15, wherein the particle size of the nanoscale metal oxide powder (b) lies between 20 nm and 100 nm.

22. The doped glass ceramic according to Claim 15, wherein the particle size of the nanoscale metal oxide powder (b) lies between 30 nm and 60 nm.

23. The doped leucite glass ceramic according to Claim 15, wherein the nanoscale metal oxide powder (b) is ZrO_2.

24. The doped glass ceramic according to Claim 15, wherein the nanoscale metal oxide powder (b) is ZrO_2 that has been stabilized with 0.5 mole-% to 12 mole-% (relative to the total amount of nanoscale metal oxide) of another metal oxide.

25. The doped glass ceramic according to Claim 24, wherein the other metal oxide is 7 mole-% to 12 mole-% of MgO or CaO or 1 mole-% to 5 mole-% of Y_2O_3.

26. The doped glass ceramic according to Claim 24, wherein the other metal oxide is about 9 mole-% of MgO or CaO or about 3 mole-% of Y_2O_3.

27. The doped glass ceramic according to Claim 15, wherein the nanoscale metal oxide powder (b) is made by means of a plasma synthesis method and has an above-average fraction of extremely small nano-particles < 60 nm and accordingly a large active surface area.

28. The doped leucite glass ceramic according to Claim 2, wherein the ceramic has been subjected to chemical curing after its production.

29. The doped leucite glass ceramic according to Claim 28, wherein the chemical curing is carried out with a salt that is selected from the group consisting of NaCl, $NaNO_3$, KCl, and KNO_3.

30. The doped glass ceramic according to Claim 15, wherein it has been subjected to chemical curing after its production.

31. The doped glass ceramic according to Claim 30, wherein the chemical curing is carried out with a salt that is selected from the group consisting of NaCl, $NaNO_3$, KCl, and KNO_3.

32. A method for producing a doped leucite glass ceramic comprising a leucite glass ceramic and a nanoscale metal oxide with a d_{50} value of 1 nm to 200 nm, comprising sintering the doped leucite glass ceramic powder according to Claim 1.

33. The method according to Claim 32, comprising chemically curing the leucite glass ceramic after sintering.

34. A dental material or a dental product comprising the doped leucite glass ceramic of Claim 2.

35. A shaped dental product, comprising a leucite glass ceramic according to Claim 2.